

Notice of Allowability

Application No.

10/663,476

Examiner

Xavier Szewai Wong

Applicant(s)

JUN ET AL.

Art Unit

2416

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 14th August 2008.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date ____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2416

Examiner's Amendment

Claim 1: delete “, and inputting them” in line 3.

Claim 6 (currently amended): An arbitration method of a matrix switch including a plurality of input ports, a plurality of crossbar switch units, a buffer, and a plurality of output ports, comprising:

(a) a grant arbiter of the crossbar switch unit searching for request signals transmitted from a plurality of Virtual Output Queue (VOQ) groups of the input ports, and selecting tile first-requested input port of one of the plurality of VOQ groups, the grant arbiter outputting a $\log(n)$ sized signal based on a selected request signal, the $\log(n)$ sized signal representing location information of the selected first-requested input port for generating a grant signal;

(b) determining whether a buffer of the output port corresponding to tile grant arbiter can receive an additional cell, wherein the destination is based on credit information that is status information of the buffer of the output port;

(c) transmitting the grant signal to the input port of one of the plurality of VOQ groups when the buffer can receive the cell;

(d) an accept arbiter of the crossbar switch unit selecting the first-granted grant signal of tile grant signals; and

(e) the accept arbiter transmitting an accept signal to the output port corresponding to the selected grant signal,

wherein in step (c), a first output port which sends a first credit value with full state of buffer does not transmit a grant signal to a first input port which sends a request signal to the first output port, and a second output port which has a second credit value with no full state of buffer selects one among second input ports which send a request signal to the second output port and transmits the grant signal to one selected second input port.

Reasons for Allowance

The best prior art of record and updated search results do not specifically show “a grant arbiter that outputs a $\log(n)$ sized signal based on a selected request signal, the $\log(n)$ sized signal representing location information of a selected input port for generating a grant signal” in combination with the all the other limitations of claims 1 and 6. Thus, independent claims 1 and 6 are deemed to be non-obvious. Claims 2-5 and 7-10 depend on claims 1 and 6 respectively, and therefore, are deemed to be non-obvious as well.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Fowler et al, US 5801657: $\log(n)$ bit signal applied to a control terminal of a multiplexer to select one of a plurality of inputs for a BITX signal for a particular bit position (col. 5 lines 13-17)

2. Nong, US 2003/0123468 A1: each input/output arbitration has a complexity of $O(\log(N))$ to select a maximum over N data (para. 0087)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571.270.1780. The examiner can normally be reached on Monday through Friday 8:30 am - 6:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571.272.3174. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800.786.9199 (IN USA OR CANADA) or 571-272-1000.

/Xavier Szewai Wong/
x.s.w
10th December 2008

/Seema S. Rao/
Supervisory Patent Examiner, Art
Unit 2416